



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,093	02/08/2001	Davin G. Saderholm	14094	1672

7590 07/28/2003
Sally J. Brown
Autoliv ASP, Inc.
3350 Airport Road
Ogden, UT 84405

EXAMINER

ILAN, RUTH

ART UNIT	PAPER NUMBER
----------	--------------

3616

DATE MAILED: 07/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/779,093

Applicant(s)

SADERHOLM ET AL.

Examiner

Ruth Ilan

Art Unit

3616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 48-72 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 55-59 is/are allowed.
- 6) ☒ Claim(s) 48-54, 60-63 and 65-72 is/are rejected.
- 7) ☒ Claim(s) 64 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 27, 2003 has been entered.

Claim Objections

2. Claim 50 objected to because of the following informalities: in line 1, "firs" should be "first". Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 60-66 and 70 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 60, lines 12 and 13 recite "first cushion port" and "second cushion port". There is insufficient antecedent basis for these limitations in the claims.

Claim Rejections - 35 USC § 103

Art Unit: 3616

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 48, 49, 50, 52, 60, 61, and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neidert (US 6,176,513 B1) in view of Keshavaraj (US 6,299,204 B1.) Neidert (Figure 3) teaches a safety restraint apparatus for protecting occupants of a vehicle including first and second cushion portions (13,17) positioned proximate first and second lateral surfaces (front and rear windows) so as to protect an occupant of a front and rear seat, respectively. Also included is a sail portion (unnumbered thinner portion between 17 and 13, marked by the Examiner in Figure 3) However, the cushion of Neidert is one-piece construction, and does not include first and second cushion portions that are separate pieces from the sail portion. It would have been obvious to one having ordinary skill in the art at the time of the invention to make the one-piece air bag of Neidert in three separate pieces, including a first, second, and sail portion, in order to provide a manufacture that does not require large sizes of stock material. Additionally, it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179. Additionally, Keshavaraj teaches that it is known in the art to be useful to form large sections of air bags from two or more pieces (see col. 4, lines 61-col. 5, line 1) because it is more cost effective. It would have been obvious to one having ordinary skill in the art at the time of the invention to form the one-piece air bag of Neidert in three separate pieces, since Keshavaraj teaches that using several pieces of fabric is more cost effective. Regarding claim 50 and 61 the Examiner takes Official

Art Unit: 3616

Notice that it is well known in the air bag art to join fabric by sewing, and other bonding methods. Regarding claim 52, it would have been obvious to one having ordinary skill in the art at the time of the invention to include a gas tight connection between the sail ports of the first and second cushions and the ends of the sail portion, since it is well known in the art that side air bags must maintain their full gas volume in order to be useful during a rollover or side impact event. Regarding claim 65 Neidert fails to teach a second sail portion and a third cushion portion that extends to the D-column of a vehicle. It would have been obvious to one having ordinary skill in the art at the time of the invention to extend the air bag Neidert to the extra seat in a vehicle with a D-column, in order to provide protection for passengers in a vehicle with a third seat, and because it has been held that the mere duplication of the essential working parts of a device involves only routine skill in the art. *St Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. Additionally it would have been obvious to extend the device in the claimed manner, that is by the addition of a sail portion, and then a third cushion portion, because Neidert teaches that the sail portion is usefully thin so as to provide an air bag that does not require a large quantity of inflation fluid for those areas that do not require protection (28, see col. 2, lines 30-34.)

7. Claims 67-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neidert (US 6,176,513 B1) in view of Keshavaraj (US 6,299,204 B1) and further in view of Hawthorn et al. (US 5,423,273.) Neidert is discussed above and as discussed, it would have been obvious to one having ordinary skill in the art to construct the air bag of Neidert in various pieces. Regarding the limitations of attachment surfaces, and

Art Unit: 3616

overlap, Hawthorn et al. teaches that it is known in the art that when fabric is joined together, it is known to overlap the connecting pieces so that the connection is enabled, and for instance in the case of a sewn connection, the seam is maintained (see for instance Figure 1, seam areas 16a, 14b) It would have been obvious to one having ordinary skill in the art at the time of the invention to overlap and connect the various pieces at attachment surfaces in order to form a sound connection.

8. The indicated allowability of claims 51, 53, 54, 63, and 66 is withdrawn in view of further consideration of Veiga et al. Rejections based on these further considerations follow.

68, 71
9. Claims 51, 53, 54, 62 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neidert (US 6,176,513 B1) in view of Keshavaraj (US 6,299,204 B1) and further in view of Veiga et al. (US 6,239,046 B1) Neidert in view of Keshavaraj is discussed above and fails to teach polyurethane coating of the variously claimed internal and external surfaces of the first, second, and sail portions. Veiga et al. teaches coating the internal and external surfaces of an air bag with polyurethane (14) as part of a coating process in order to provide superior heat resistance. It would have been obvious to one having ordinary skill in the art at the time of the invention to treat the internal and external surfaces of the air bag of Neidert with polyurethane, as taught by Veiga et al., in order to provide superior heat resistance during deployment of the air bag. Regarding the RF welding of the portions, Veiga et al. teaches that it is known in the art to connect air bag portions by RF welding (see col. 3, lines 26-30.) It would have been obvious to one having ordinary skill in the art at the time of the invention to RF

Art Unit: 3616

weld mating portions of the sail portion and cushion portions of the air bag of Neidert in view of Keshavaraj, as taught by Veiga et al., since Veiga et al. teaches that RF welding to join seams is a preferred method of joining.

Allowable Subject Matter

10. Claims 55-59 are allowed.
11. Claim 64 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

12. Applicant's arguments filed May 27, 2003 have been fully considered but they are not persuasive. The Applicant states that the Examiner must find all limitations of the rejected claim in the prior art. First of all, all the elements, that is all the portions are found in the prior art device of Neidert, however they are integral with each other. The Examiner relies on common sense, case law, and prior art to establish a prima-facie case of obviousness regarding forming the air bag from separate portions. It has been held that there are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." In re Rouffet, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) (See MPEP 2143.01) Keshavaraj teaches that it is known in the art to be useful to form large sections of air bags from two or more pieces

Art Unit: 3616

(see col. 4, lines 61-col. 5, line 1) because it is more cost effective, and the Examiner's motivation to combine the teaching of Neidert with the teaching of Keshavaraj is based on this motivation. Regarding the knowledge of persons of ordinary skill in the art, it is the Examiner's position that forming an integral structure from several pieces is well within the level of ordinary skill in the art.

As evidenced on page 10 of the Remarks, the Examiner understands that it is the Applicant's position that the prior art generally teaches away from modular assembly because of a prior art trend to minimize seams so as to minimize leakage in the seams, which is especially important in side air bags. However, the prior art also generally teaches welding seams to minimize leakage, and as such seam leakage is not a problem. As discussed in MPEP 2143.01, the test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art, and all teachings in the prior art must be considered to the extent that they are in analogous arts. Where the teachings of two or more prior art references conflict, (for instance the generally recognized threat of seam leakage and the known usefulness of forming air bags from several pieces for economical reasons) the examiner must weigh the power of each reference to suggest solutions to one of ordinary skill in the art, considering the degree to which one reference might accurately discredit another. In *re* Young, 927 F.2d 588, 18 USPQ2d 1089 (Fed. Cir. 1991) In the instant application, Keshavaraj teaches that the use of smaller pieces of fabric is economical, and a slew of prior art, including that cited below, teaches that RF welding is useful and preferred and mitigates seam leakage. RF welding is known to be a useful seaming technique, and

Art Unit: 3616

seam leakage is a problem that has been solved in the art to a degree that the threat of seam leakage does not teach away from forming an air bag in pieces. The Applicant indicates that it is "the use of Applicants' enhanced treatment and assembly techniques" that allows for the modular construction. These techniques, that is coating and RF welding, are well known in the art and do not constitute an inventive step.

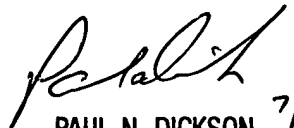
Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Veiga et al. ('724), Niederman et al., and Keshavaraj ('356) teach that it is known in the art to RF weld seams of air bags, and that the coating process is part of the RF weld technique.

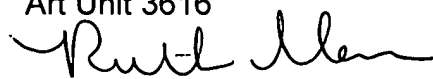
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruth Ilan whose telephone number is 703-306-5956. The examiner can normally be reached on Monday-Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on 703-308-2089. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.


PAUL N. DICKSON 7/22/03
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

Ruth Ilan
Examiner
Art Unit 3616


7/22/03

RI

July 22, 2003